ABSTRACT AMENDMENTS

Replace the Abstract with:

In ~~the~~ a transverse ~~type~~ induction heating apparatus in which a material ~~1~~ to be rolled is heated by inductors ~~2 and 3~~ to which electric power is supplied from an AC power source ~~4~~, iron core widths of the inductors ~~2 and 3~~ in a plate width direction of the material ~~1~~ to be rolled are ~~made~~ smaller than ~~a~~ plate width of the material ~~1~~ to be rolled, they are disposed on a plate width center line of the material ~~1~~ to be rolled, and when a current penetration depth is ~~made~~ δ (m), ~~a~~ specific resistance of the material ~~1~~ to be rolled is ~~made~~ ρ (Ω-m), ~~a~~ magnetic permeability of the material ~~1~~ to be rolled is ~~made~~ μ (H/m), ~~a~~ heating frequency of the AC power source ~~4~~ is ~~made~~ f (Hz), ~~a circular constant is made π,~~ and ~~a~~ plate thickness of the material ~~1~~ to be rolled is ~~made~~ tw (m), the heating frequency of the AC power source ~~4~~ is set ~~to cause the current penetration depth δ of expression (1) to satisfy expression (2)~~ so that

$$\delta = \{\rho/(\mu \cdot f \cdot \pi)\}^{1/2} \quad \text{~~---(1)~~}$$

$$(tw/\delta) < 0.95 \quad \text{~~---(2)~~}.$$